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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,738	09/29/2000	Olivier Hericourt	FR9-1999-0083 US1	2863

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EXAMINER

SHAW, JOSEPH D

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 03/22/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/676,738

Applicant(s)

HERICOURT, OLIVIER

Examiner

Joseph D Shaw

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6, 7, 10, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 2, 5, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 6
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Drawings

1. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 5 is objected to because of the following informalities:
- a. The word "referring" in line 5 should be preceded with "by".
- Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- b. Claim 10 recites the limitation "the priority of the IP datagram" in line 8. There is insufficient antecedent basis for this limitation in the claim.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6-7, 10, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldszmidt et al. (NetDispatcher: A TCP Connection Router) in view of Stevens (TCP/IP Illustrated, Volume 1: The Protocols), and further in view of Admitted Prior Art (APA).

c. As per claim 1 and 13-14, Goldszmidt teaches a dispatcher (Abstract, page 1); the dispatcher comprising a first table for tracking connections, the first table being indexed by a source IP address (source address) and a source port (application address) (page 7, lines 11-14); and a second table defining for each application (port number) a set of servers that can service that port (page 7, lines 5-10). However, Goldszmidt does not *explicitly* teach determining the application level protocol from the first table and using that to reference the servers in the second table. Furthermore, Goldszmidt does not *explicitly* teach identifying the source device and the application on the source device. Stevens teaches the concept of well-known ports, wherein each port number (application address) has a corresponding service (application level protocol) associated with it (i.e. FTP uses port 21; pages 12-13, section 1.9 Port Numbers). Therefore, in light of Stevens, it can be seen that the first table in the Goldszmidt invention implicitly defines the application level

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protocol by listing the source port; and that the second table in the Goldszmidt invention implicitly relates application level protocols to servers by listing the source ports. Furthermore, Stevens teaches an IP datagram comprising an IP header and TCP header (page 10, Fig. 1.7); the IP header containing a source IP address field (well known in the art that the source IP address field identifies the source device; page 34, Fig. 3.1; page 37, lines 18-19); and the TCP header containing a source port number (Source Port field) that identifies the sending application (application on the source device; page 225, Fig. 17.2; page 226, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the method of identifying source devices and their applications, as taught by Stevens, in the Goldszmidt invention because these methods are well-known in the art and would allow for Goldszmidt to set up his connection table with the appropriate source and application addresses.

Still, the modified Goldszmidt invention as described above does not explicitly teach the servers in the second table being socks servers. APA teaches that socks servers are used as relays between systems internal and external to an intranet (page 9, lines 10-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the servers listed in the modified Goldszmidt invention be socks servers, as taught by APA, because socks servers essentially hide the internal systems from the external Internet, acting as a form of a firewall, as taught by APA (page 9, lines 12-13).

d. As per claim 6, Goldszmidt discloses the claimed invention modified as described above. Furthermore, it is inherent that the source IP address (source address) and source port (application

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address), in the first table, define the source device and application (page 7, lines 11-15). In addition, as stated above, Stevens teaches the concept of well-known ports, wherein each port number (application address) has a corresponding service (application level protocol) associated with it (i.e. FTP uses port 21; pages 12-13, section 1.9 Port Numbers). Therefore, in light of Stevens, it can be seen that the first table in the Goldszmidt invention implicitly comprises the application level protocol by listing the source port.

e. As per claim 7, Goldszmidt discloses the claimed invention modified as described above. Furthermore, Goldszmidt teaches the second table comprising an address identifier, a server capacity, and application level protocols supported by the server (page 8, Fig. 4; page 7, lines 5-10; page 9, section 3.1.2).

f. As per claim 10, Goldszmidt discloses the claimed invention modified as described above. Furthermore, Goldszmidt teaches determining the number of servers in the second table defined for the application level protocol of the IP datagram and forwarding the IP datagram to a server selected according to its capacity (for each port, servers with twice the weight receive twice the number of packets; page 9, section 3.1.2). This method inherently forwards all IP datagrams to one server if only one server is defined for an application level protocol. However, the Goldszmidt invention does not explicitly teach forwarding also being based on the priority of the IP datagram. "Official Notice" is taken that both the concept and advantages of having more important data handled by a more powerful server is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in

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the modified Goldszmidt invention considering the priority of the IP datagram when determining where to forward IP datagram because having a higher capacity server handle data of a higher priority ensures reliability and a higher quality of service.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldszmidt et al. (NetDispatcher: A TCP Connection Router) in view of Stevens (TCP/IP Illustrated, Volume 1: The Protocols), further in view of Admitted Prior Art (APA), and further in view of Bechtolsheim et al. (6,515,963).

g. As per claim 3, Goldszmidt discloses the claimed invention modified as described above. However, the modified Goldszmidt invention does not explicitly teach determining the priority of an IP datagram by referring to a third table that defines the priority for each value of the application level protocol. Bechtolsheim teaches defining various network traffics (application level protocols) as having higher and lower priorities (col. 2, lines 11-22). It would have been obvious to include assigning various network traffic different levels of priority, as taught by Bechtolsheim, in the Goldszmidt invention because the Goldszmidt invention could then ensure that more important traffic is handled before concerning itself with less important traffic.

Still, the modified Goldszmidt invention does not explicitly teach using a table to associate the various application level protocols with their priority. "Official Notice" is taken that both the concept and advantages of using tables to relate data are well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in

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the modified Goldszmidt invention a table for relating application level protocols with their priority because tables are common and easily implemented methods of relating two pieces of data.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldszmidt et al. (NetDispatcher: A TCP Connection Router) in view of Stevens (TCP/IP Illustrated, Volume 1: The Protocols), further in view of Admitted Prior Art (APA), further in view of Bechtolsheim et al. (6,515,963), and further in view of Goss (5,828,653).

h. As per claim 4, Goldszmidt discloses the claimed invention modified as described above. However, the modified Goldszmidt invention does not explicitly teach discarding IP datagrams in an output queue when the IP datagrams in the output queue have a lower priority than the IP datagram in question, or discarding the IP datagram in question when it has a lower priority than the IP datagrams in the output queue. Goss teaches a method of transmitting data (ATM cells, analogous to IP datagrams) where the data is given a priority when it is received and, upon increasing congestion within the queue, lower priority data is discarded (col. 1, lines 35-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to include discarding lower priority data in a queue to combat congestion, as taught by Goss, in the modified Goldszmidt invention because prioritization of data would prevent information requiring a higher quality of service from being indiscriminately discarded while lower quality of service data streams pass through the congested queue.

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Allowable Subject Matter

9. Claims 2, 5, and 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

i. As per claim 2, the prior art of record teaches connection tables in general for TCP traffic (see Goldszmidt) wherein the table comprises source addresses, application addresses, and, implicitly, application layer protocols. However, claim 2 more distinctly defines how the entries in the table are managed, in regards to receiving socks CONNECT messages. With the added limitation, table entries are limited to socks messages.

j. As per claims 5, and 8-9, the prior art of record teaches the limitation of a indication concerning the capacity of IP datagrams to be discarded in case of congestion (see Goss for the cell loss priority bit; col. 1, lines 54-58). However, in the case of the prior art, this indication is individual for each cell (datagrams in analogous arts), and does not relate to an all datagrams for an entire application level protocol, as limited by the claims.

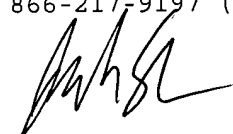
Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D Shaw whose telephone number is 703-305-0094. The examiner can normally be reached on Monday - Thursday and alternate Fridays, 7am - 4pm.

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12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 703-305-4003. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Shaw
Examiner
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